

[A Translation of the Notification of Reasons for Refusal]

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Notification of Reasons for Refusal

Patent Application No.: H11-265904
Notification Drafted: December 12, 2003
Examiner: NATORI Kanji 9211 2P00
Agent: SHIBANO Tadamasa
Patent Law Section Applied: 29(2)

This application should be refused for the reason mentioned below. If the applicant has any argument against the reason, such argument should be submitted within 60 days of the date on which this notification was dispatched.

Reason

The invention in the claim listed below of the subject application should not be granted a patent under the provision of Patent Law Section 29(2) since it could have easily been made by persons who have common knowledge in the technical field to which the invention pertains, on the basis of the invention described in the publication listed below which was distributed in Japan or foreign countries prior to the filing of the subject application.

Notes (A list of cited documents etc. is shown below)

[Regarding claims 1 to 11]

● Cited Documents etc.: Documents 1 to 3

>>>> Remarks <<<<

Document 1 discloses an optical print head wherein a plurality of LED array elements are connected to a single driver IC and are driven on a time-division basis and wherein the individual electrodes from the driver IC and the common electrodes from a common driver IC are connected to the LED array elements from one and the other sides, respectively, of their light-emitting sections.

Document 2 discloses an optical print head wherein a driver IC for driving a light-emitting element array on a time-division basis has n element drive output terminals and m group selection terminals, wherein the light-emitting element array has its individual and common electrodes arranged on one and the other sides, respectively, of its light-emitting section, and wherein a series of driver ICs are cascade-connected so that adjacent driver ICs can exchange print data.

Document 3 discloses an optical print head wherein a driver IC for driving a light-emitting element array on a time-division basis has element drive output terminals of which the number (d) (the number divided by the number of divisions) is smaller than the number

(*a*) of drivable light-emitting sections and wherein *a* items of data are stored in a shift register so that *a* among them are selected and outputted to the element drive output terminals in synchronism with the timing of time-division driving.

Thus, there is no special difficulty in adopting, instead of the driver IC disclosed in Document 1 that performs time-division driving, the driver IC disclosed in Document 2 that likewise performs time-division driving. In that case, it is merely a matter of design to set the number (*m*) of selection terminals according to the number (*q*) of LED array elements that are connected to a single driver IC and the number (*p*) of common electrodes they have.

Moreover, there is no special difficulty in adopting the invention disclosed in Document 3 as the methods of storing data in a driver IC and of outputting them (claim 4).

Accordingly, the invention claimed in claims 1 to 11 is easily conceivable by a person skilled in the art on the basis of the inventions disclosed in Documents 1 to 3.

Incidentally, on which side of a light-emitting element array to arrange a driver IC is merely a matter of design as can be appropriately determined by a person skilled in the art in consideration of the available space on the circuit board, the likely electrical cross talk, and other factors (claim 11).

< List of Cited Documents etc.>

1. Japanese Patent Application laid-open as No. H04-255368
(See, in particular, [0010]-[0014], [0017], and all the drawings.)
2. Japanese Patent Application laid-open as No. H10-202947
(See, in particular, page 1, [0014]-[0015], [0017]-[0019], [0022]-[0023], [0027].)
3. Japanese Patent Application laid-open as No. H10-235935
(See, in particular, page 1, [0011]-[0015], [0018], and all the drawings.)

Record of the Result of Prior Art Search

- Technical Fields Searched (IPC 7th Edition)

B41J2/447
B41J2/45
B41J2/455
H01L33/00
B41J2/355

- Prior-Art Documents:

Japanese Patent Application laid-open as No. S61-228973
Japanese Patent Application laid-open as No. H08-187889
Japanese Patent Application laid-open as No. H10-181079
Japanese Patent Application laid-open as No. H10-226102

This record of the result of the prior art search is not a component of the reasons for refusal.

For inquiries about this notification of reasons for refusal, or for a request for an interview, contact:

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